

PROJECT DESCRIPTION
GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF HILLTOP CIRCLE AT HILLTOP ROAD IN BALTIMORE COUNTY. HILLTOP CIRCLE IS CONSIDERED TO RUN IN A NORTH/SOUTH DIRECTION.

THE TRAFFIC SIGNAL IS BEING REBUILT DUE TO GEOMETRIC CHANGES. PEDESTRIAN CROSSINGS ARE BEING UPDATED TO APS/ADA STANDARDS.

INTERSECTION OPERATION

A CONTROLLER HOUSED IN A BASE MOUNTED CABINET SHALL BE INSTALLED AT THIS LOCATION. THE NEMA PHASING IS NOT CHANGING AT THIS TIME. THE INTERSECTION WILL CONTINUE TO OPERATE IN A FULLY ACTUATED MODE USING 6 NEMA PHASES. THERE IS AN EXCLUSIVE/PERMISSIVE LEFT TURN PHASE FOR THE NORTH AND SOUTHBOUND MOVEMENTS OF HILLTOP CIRCLE. THE HILLTOP CIRCLE THROUGH MOVEMENTS OPERATE CONCURRENTLY WITH CONCURRENT PEDESTRIAN MOVEMENTS ACROSS THE EAST AND WEST LEGS OF THE INTERSECTION. THE HILLTOP ROAD MOVEMENTS OPERATE IN A SIDESTREET SPLIT PHASE MODE WITH ACTUATED PEDESTRIAN MOVEMENTS ACROSS THE NORTH AND SOUTH LEGS OF THE INTERSECTION.

SPECIAL NOTES

1. THE FOLLOWING CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

PROJECT CONTACTS:

MS. ERIN KUHN, ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: 410-229-2381
MR. DONALD SCHAFFER, ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
PHONE: (410)-229-2421
MR. ANDRE FUTRELL, ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: 410-229-2361
MR. MICHAEL PASOARIELLO, UTILITY ENGINEER
PHONE: 410-229-2341
MR. RICHARD L. DAFF, SR. CHIEF TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630
MR. EDWARD RODENHIZER, SUPERVISOR, SIGNAL OPERATIONS
PHONE: (410) 787-7652

2. ALL INTERNAL CABINET WIRING SHALL BE PERFORMED BY THE SHA SIGNAL SHOP. CONTRACTOR SHALL CONTACT ED RODENHIZER 72 HOURS PRIOR TO CONSTRUCTION.

3. APS WILL FUNCTION AS FOLLOWS:

FOR HILLTOP CIRCLE

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON MESSAGE WILL BE "WAIT TO CROSS HILLTOP CIRCLE AT HILLTOP ROAD".
- B. WHEN WALK PHASE BEGINS, THE AUDIBLE SOUND WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

FOR HILLTOP ROAD

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON MESSAGE WILL BE "WAIT TO CROSS HILLTOP CIRCLE AT HILLTOP ROAD".
- B. WHEN WALK PHASE BEGINS, THE AUDIBLE SOUND WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.

NONE.

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

QUANTITY UNITS DESCRIPTION

LUMP SUM LS MAINTENANCE OF TRAFFIC

LUMP SUM LS MOBILIZATION

4 EA 20 FT. LUMINARIES ARM

4 EA 250 W HPS LAMP AND LUMINARIES

4 EA 10 FT. STEEL PEDESTAL POLE WITH BREAKAWAY BASE

2 EA 27 FT. STEEL MAST ARM POLE WITH 50 FT. MAST ARM

2 EA 27 FT. STEEL MAST ARM POLE WITH 60 FT. MAST ARM

1 EA STANDARD S.H.A. TRAFFIC SIGNAL CONTROLLER, BASE MOUNTED NEMA 6 CABINET, AND VIDEO DETECTION INTERFACE. [Note: CONTROLLER AND CABINET SHALL BE PURCHASED FROM ECONOLITE AND DELIVERED TO THE S.H.A. SIGNAL SHOP FOR WIRING AND TESTING. CONTACT MR. ED RODENHIZER (410) 787-7650]

4 EA VIDEO DETECTOR CAMERA

760 LF VIDEO DETECTOR CAMERA CABLE

8 EA AUDIBLE PEDESTRIAN PUSHBUTTON ASSEMBLY WITH PUSHBUTTON SIGN

1 EA APS 2-WIRE CENTRAL CONTROL UNIT

2 EA 8 IN./12 IN. 4-SECTION LED SIGNAL HEAD - MAST

2 EA 8 IN./12 IN. 5-SECTION LED SIGNAL HEAD - MAST

4 EA 12 IN. 3-SECTION LED SIGNAL HEAD - MAST

2 EA 12 IN. 4-SECTION LED SIGNAL HEAD - MAST

2 EA 12 IN. 5-SECTION LED SIGNAL HEAD - MAST

4 EA 16 IN. 1-SECTION, 1-WAY LED (COUNTDOWN) PEDESTRIAN SIGNAL HEAD - POLE

4 EA 16 IN.1-SECTION, 1-WAY LED (COUNTDOWN) PEDESTRIAN SIGNAL HEAD - POST TOP

5 EA 30 IN. X 36 IN. R3-5 REGULATORY SIGN - MAST ARM

6 CY TEST PIT EXCAVATION

4 EA HANDHOLE

60 LF 1-CONDUCTOR CABLE (NO. 4 AWG)

770 LF 2-CONDUCTOR TRAY CABLE (NO. 12 AWG)

1090 LF 2-CONDUCTOR CABLE (NO. 14 AWG)

1280 LF 5-CONDUCTOR CABLE (NO. 14 AWG)

1620 LF 7-CONDUCTOR CABLE (NO. 14 AWG)

410 LF BARE COPPER GROUND WIRE (NO. 6 AWG)

20 LF 2 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED

120 LF 3 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED

10 LF 4 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED

270 LF 4 IN. PVC CONDUIT [SCHEDULE 80] - BORED

20.05 CY CONCRETE FOUNDATION FOR TRAFFIC SIGNAL EQUIPMENT

7 EA GROUND ROD - 3/4 IN. X 10 FT. LENGTH

1 EA EMBEDDED ELECTRICAL (UNMETERED) SERVICE PEDESTAL (100 AMPS)

555 LF 12 IN. WHITE THERMOPLASTIC PAVEMENT MARKING - CROSS WALK

150 LF 24 IN. WHITE THERMOPLASTIC PAVEMENT MARKING - STOP LINE

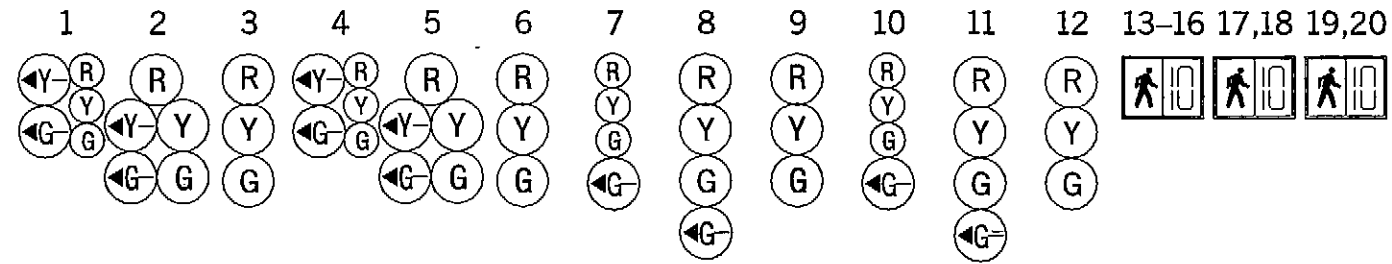
4 EA REMOVE AND DISPOSE OF EXISTING CONCRETE FOUNDATION 12 INCHES BELOW GRADE

LUMP SUM LS REMOVE EXISTING SIGNAL EQUIPMENT

4 EA REMOVE AND REMOUNT EXISTING STREET NAME SIGN WITH APPROPRIATE BRACKET

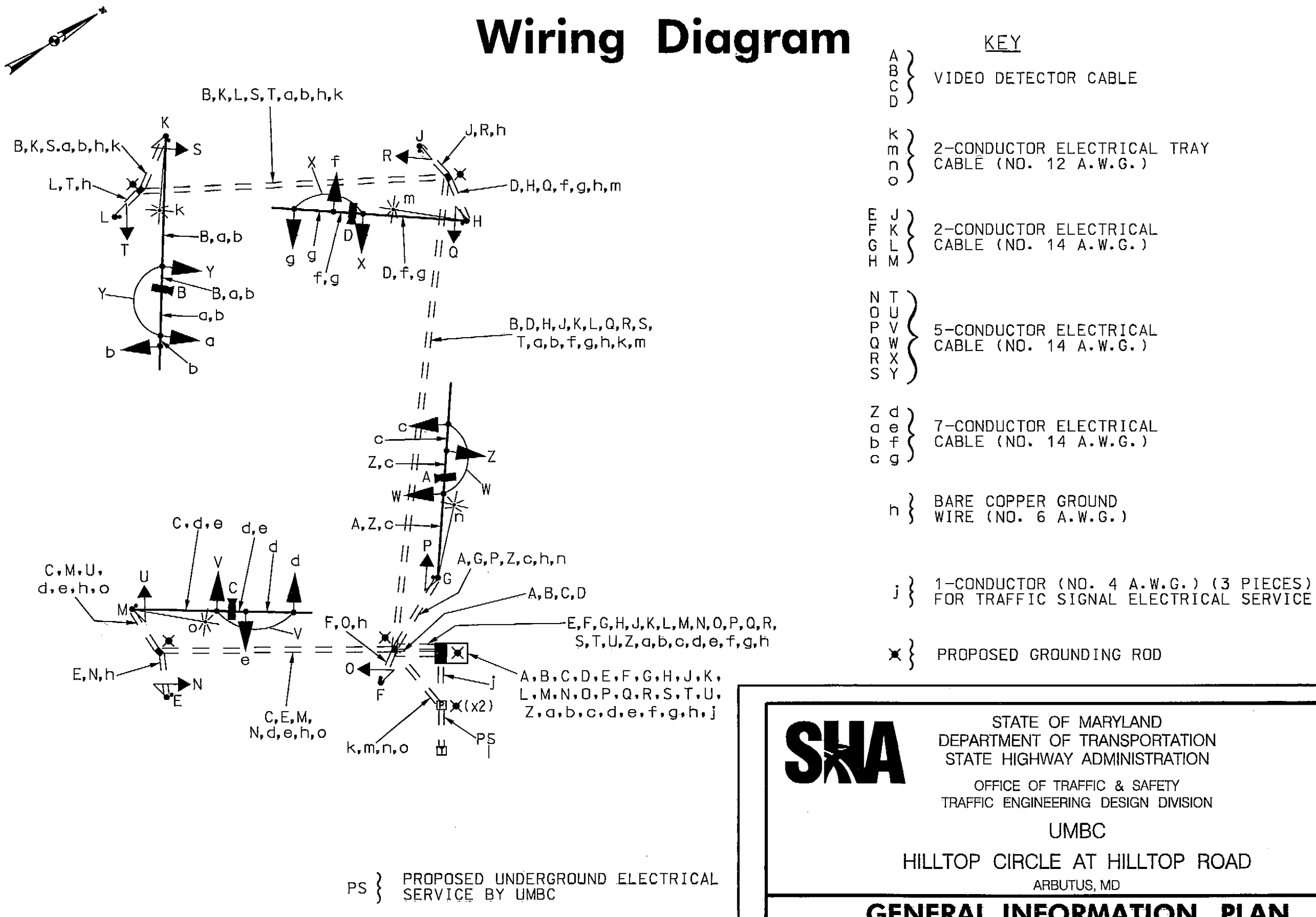
C. SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILLIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

Phase Chart



PHASE 1 AND 5	←GR	←GR	R	←GR	←GR	R	R	R	R	R	R	R	R	DW	DW	DW	
1 AND 5 CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6																	
PHASE 1 AND 6	←GG	←GG	G	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	
1 CHANGE	←YG	←YG	G	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	
PHASE 2 AND 5	R	R	R	←GG	←GG	G	R	R	R	R	R	R	R	DW	DW	DW	
5 CHANGE	R	R	R	←YG	←YG	G	R	R	R	R	R	R	R	DW	DW	DW	
PHASE 2 AND 6	G	G	G	G	G	G	R	R	R	R	R	R	R	WK	DW	DW	
PED CLEARANCE	G	G	G	G	G	G	R	R	R	R	R	R	R	FLDW	DW	DW	
2 AND 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	R	DW	DW	DW	
PHASE 3	R	R	R	R	R	R	←G	←G	G	R	R	R	R	DW	DW	DW	
3 CHANGE	R	R	R	R	R	R	Y	Y	Y	R	R	R	R	DW	DW	DW	
PHASE 4	R	R	R	R	R	R	R	R	R	←G	←G	G	DW	DW	DW	DW	
4 CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	
PHASE 3 ALT	R	R	R	R	R	R	←G	←G	G	R	R	R	R	DW	DW	WK	
PED CLEARANCE	R	R	R	R	R	R	←G	←G	G	R	R	R	R	DW	DW	FLDW	
3 ALT CHANGE	R	R	R	R	R	R	Y	Y	Y	R	R	R	R	DW	DW	DW	
PHASE 4 ALT	R	R	R	R	R	R	R	R	R	←G	←G	G	DW	WK	DW	DW	
PED CLEARANCE	R	R	R	R	R	R	R	R	R	←G	←G	G	DW	FLDW	DW	DW	
4 ALT CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	

Wiring Diagram



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

UMBC

HILLTOP CIRCLE AT HILLTOP ROAD
ARBUTUS, MD

GENERAL INFORMATION PLAN

SCALE NA DATE NOVEMBER 19, 2010 CONTRACT NO. BW996M82

DESIGNED BY J. STORCK COUNTY BALTIMORE

DRAWN BY J. STORCK LOGMILE

CHECKED BY TMS NO. K333

F.A.P. NO. NA TOD NO. NA

TS NO. 4782 DRAWING G1-01 OF 01 SHEET NO. 2 OF 2

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